

## Notes & News

### High-Lights of a Collecting Trip

by

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In late August, 1960, I had the privilege of a four-day trip through the Gulf of California--two days with the Ariel Expedition (a group of Southern Californian collectors in a chartered Mexican trawler), crossing the Gulf from Guaymas to La Paz, and two days at La Paz with an expedition sponsored by the Belvedere Scientific Fund of San Francisco. Each of the two segments of the trip was climaxed by a special find.

The first find was a valve, among some about-to-be-discarded rubble, of an *Anatina*, s. s., presumably *A. anatina* (Spengler). This is a species about which there has been disagreement among authors. When I was preparing "Sea Shells of Tropical West America" I did not (and have not yet had) opportunity to consult the original description by Spengler, and I simply accepted the synonymy and range given by Dall in his review of American *Macridae* (1894). Whether Spengler in describing his *Macra anatina* in 1802 cited a locality is doubtful. Schumacher, proposing a genus *Anatina* for it in 1817, renamed the species *A. pellucida*, to avoid tautonymy. Wood in 1828 figured a specimen said to be from Peru under the name *Macra cyprinus*. According to Wilkins (Bull. Brit. Mus. [Nat. Hist.], Historical Series, vol. 1, no. 4, p. 165, 1957), Conrad as early as 1831 synonymized this with *M. lineata* (Say), from the Caribbean, and Wilkins, who refigured Woods' holotype, concurred in this correction of locality. Reeve, who had figured the same specimen in the 1850's, merely said, "Hab. -- ?" Dall's decision that the species is West Mexican probably was based on specimens at the U. S. National Museum, but I have not found any explicit statement to that effect. At any rate, it is confirmed by the Ariel Expedition material, in which one complete valve and some fragments were found. They match the Reeve and Wilkins figures well. The shell is proportionately longer and more sloping anteriorly than that of *A. lineata* (Say). None of the fragments would seem to be as large as Woods'

holotype, however. Two localities are represented.-- off Guaymas, Sonora, and off Carmen Island, Gulf of California, in depths of 15 to 25 fathoms. For the time being we must assume that the synonymy of *Macra cyprinus* with *M. anatina* was properly established at some time in the past, and so we record this new find as *Anatina anatina* (Spengler). It is perhaps not impossible that Spengler's description was based upon the identical specimen that Woods used. According to Wilkins, this shell was purchased by Mr. Cracherode (for whom our black abalone, *Haliotis cracherodii* was named) in 1797. As he was a man noted for cooperativeness in letting others study his material, could not Spengler have had access to this specimen when preparing his 1802 paper on *Macra*? Woods' shell is now in the British Museum, in fairly good condition despite its having been blasted from the tablet on which it was glued when a World War II bomb fell near the Museum. How so rare and fragile a shell could have been taken in the Gulf at that early date remains an enigma.

The second cause for personal elation was the finding of live specimens of the bivalved gastropod, *Berthelinia*, precisely where it had been predicted to occur. On Espiritu Santo Island, about 20 miles northeast of La Paz, we found it on fronds of a green alga, *Caulerpa*. The largest of the 34 specimens taken there came from the algae growing near rocks. On a later trip, Mr. Allyn G. Smith found more than 50 additional specimens at another locality nearer La Paz. These were on a different species of *Caulerpa* and averaged somewhat larger in size. The question of whether this Gulf species is really "*Scintilla*" *chloris* Dall (the type locality of which is Magdalena Bay) is yet unsettled. The latter is definitely a bivalved gastropod, however, for a syntype specimen at the California Academy of Sciences reveals the central muscle scar that Dall overlooked or did not recognize as a scar.

### Taxonomic Revision of

### *Monadenia fidelis baxteriana* TALMADGE

by

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In 1954, the writer described as a geographical race the *Monadenia fidelis baxteriana* Tal-

madge (Nautilus, 68(2), October 1954). This subspecies was based upon a series of specimens, collected by Mr. Ray Baxter, on Sister Rock, an islet off the southern Oregon coast. Until 1960 the original lot was the only known series of this race. The holotype had been deposited in the California Academy of Sciences in San Francisco, California.

Early in 1960, Mr. Munroe Walton, while gathering topotypes of the various genera and species of the land mollusks, obtained a very fine series of *Monadenia fidelis baxteriana*, not only from the islet, but also from the opposite mainland. A careful examination of this larger series has caused me to revise my diagnosis as to the status of this race.

Evidence, based on the additional specimens, now indicates that this "race" is only part of an ecological cline, blending in with adjacent mainland populations. The specimens from both the islet and the opposite headland are dwarfed, some more so than others. Specimens collected adjacent to this rather small area are more or less the same as the major mainland race, the *Monadenia fidelis beryllica* Chace (Nautilus, 48, 1935). As noted by all collectors who have worked the genus, populations vary from locality to locality, which makes a typical species extremely difficult to describe.

It is now obvious that this dwarfed population is part of an ecological cline rather than the usual geographical race. That there is definite contact between the more or less normal populations both to the north and south is indicated by some specimens being fully as large as the adjacent populations. That at least a partial separation exists is indicated by the large number of dwarfed shells. As this cline inhabits an ecological condition that is more or less unfavorable to the genus, the dwarfing could be considered a normal consequence. As the islet is rather close to shore, probably the geographical isolation has not existed for a long enough period in geological time to complete the evolution into a distinct subspecies.

Therefore, I feel at this time that it is best to place *Monadenia fidelis baxteriana* in the synonymy of *M. f. beryllica*, utilizing the name, if desired, to refer to the members of this rather localized dwarfed population.



## Note on the Bivalved Gastropod *Berthelinia limax* (KAWAGUTI & BABA, 1959)

by

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On 21 August 1960 Dr. Siro Kawaguti, Professor of Zoology, Department of Biology, Okayama University, Japan, flew from Tokyo to San Francisco with living examples of his new bivalved gastropod *Berthelinia limax* and a liberal supply of its green food alga *Caulerpa okamurai*. On arrival early in the morning of 22 August, Dr. Kawaguti was met by a vehicle from the Steinhart Aquarium of the California Academy of Sciences and taken to the Aquarium for the proper handling of his specimens, which he brought over in small round plastic containers in his brief case.

Shortly after arrival at the Aquarium arrangements were made to transfer the specimens to open, wide-mouthed glass jars of quart size along with a small amount of the food alga in each jar. It seemed probable, from temperature tolerances in the Okayama University laboratory, where Dr. Kawaguti had been eminently successful in raising specimens of *Berthelinia*, that clean salt water from the Aquarium's normal salt system (60-65° F. range) would be satisfactory. Therefore, the Japan Sea water was changed gradually to Pacific Ocean water so as to inhibit the possibility of undue shock in the transfer.

Dr. Kawaguti's living specimens were of several sizes (ages) and included one lot of *Caulerpa* with egg masses. After transfer, Jar #1 contained two adult animals, a third being added on discovery in the surplus lot of *Caulerpa* on 8 September. On 24 August two of the adults were observed in copulating position but whether egg masses were laid later could not be determined with certainty. One of the adults died on or about 20 September; another, on 28 September; and the third (the largest of the three) on 29 September.

In Jar #2 one half-grown specimen was observed on 8 September and one more of like size on 12 September. On 7 October both were still alive and active but on 10 October one died, followed by the other on 12 October.

Jar #3 contained *Caulerpa* with egg masses. At least one and possibly more of these hatched about 25 August and the next day Dr. Kawaguti observed them alive. Under the microscope